

Technology Audit

Infrastructure Management

Fujitsu Systemwalker v12.0

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Abstract

Fujitsu Systemwalker is a mature suite of products aimed at supporting infrastructure management within organisations that have a distributed infrastructure. Today's complex environments need management and monitoring, much as the earlier mainframe-only environments did; and the focus on policy-led management within Systemwalker allows for central policy-making but local control. The solution is available as an entire suite but elements can also be used in conjunction with existing infrastructure components, such as help-desk solutions. At present, the company's marketing does not emphasise the link between infrastructure management and methodologies such as ITIL or COBIT, which can help provide a human management framework within which tools such as Systemwalker can operate – Butler Group believes that this needs to be addressed, particularly in markets where there is significant interest in these methodologies. Organisations with distributed systems infrastructure (but with little or no emphasis on mainframes) are likely to benefit from deploying this solution, which is best evaluated by proof of concept to determine how it works. Demonstrations are also available on the company's Web site.

KEY FINDINGS

Key: ✓ Product Strength ✗ Product Weakness *i* Point of Information

✓	Pre-defined templates can speed up deployment.	✓	Event logging can be increased if service levels are about to be breached.
<i>i</i>	Supports a wide range of operating systems and platforms, including older ones.	✓	Web client allows access from portable devices.
<i>i</i>	Not yet fully certified as ITIL compliant, although the service desk aspects are.	<i>i</i>	Limited support for mainframe environments.
✓	Support is available globally, within the customer's region.	✓	Visual approach to job management allows ongoing optimisation.

LOOK AHEAD

Already a mature suite of products, Systemwalker will still benefit more from planned enhancements, particularly those aimed at compliance. For example, the expansion of configuration management aspects of the solution, to identify when aspects of the infrastructure are out of the stated policy, will be valuable.

► FUNCTIONALITY

Product Analysis

Managing and monitoring system resources and applications across distributed networks is a challenge faced by many organisations. Today's information and communication technology networks are complex entities that have the potential to cause major upsets to the organisations in which they are embedded if anything goes wrong. The time taken to first identify and then resolve any problems means that many organisations spend a significant amount of both time and money, simply on looking after the infrastructure.

Fujitsu Systemwalker has been designed to automate and support much of this management headache. Butler Group last reviewed Systemwalker at version 10, and the product has evolved significantly over the last two releases, with many useful additional features and functions. It also forms part of Fujitsu's TRIOLE strategy, aimed at optimising IT infrastructure by the provision of proven, certified components that can be trusted to fit together, making deployment much more rapid.

Fujitsu Systemwalker is a comprehensively featured, integrated service management suite, providing a wide range of features to assist with the management of a heterogeneous, and frequently complex, information and communications technology infrastructure. The product has been developed from a business as well as a technical perspective, with a particular emphasis on ease of setup, which means that it is easy to define and then support the more critical business services within the organisation.

The principal functional areas that the Systemwalker solution suite covers are:

- Lifecycle Management, including monitoring and management of hardware and software. Tools to address this issue include Systemwalker Centric Manager, Livehelp, and Systemwalker for Oracle.
- Service management, including scheduling and job management. Here, Systemwalker Operation Manager (for Job Management and also a specific version for SAP/R3) and Desktop management solutions can help.
- Autonomous Systems Infrastructure, including quality of service. Resource Co-ordinator and Service Quality Co-ordinator provide the mechanisms to automate much of the relevant reporting to help ensure service levels.

Systemwalker comprises a number of different products, which can be deployed separately (i.e. potentially in conjunction with existing infrastructure elements) or as an integrated solution suite. The solution is built around the concept of Policy-based Systems Management – where policies can be defined and enforced across the organisation's network. When parameters exceed pre-defined thresholds, alerts are automatically raised, and can be sent to the appropriate person (or role) by e-mail, text message, or a popup window, as well as being visible on the relevant operator console. This means that it is not necessary for a person to continually monitor the day-to-day running of the network; it can be managed by exception.

Some of the differentiators of Systemwalker over competitors products include its high-reliability capability, where the messaging protocol used between the central manager and remote agents has built-in message confirmation, so that if a message is not confirmed as being received it is automatically re-sent. Its Duplex management systems allows multiple servers to be set up (beyond clustering) providing full redundancy in case of server failure. Systemwalker agents are self-checking, with a 'heart beat' capability allowing full monitoring.

Of particular interest to enterprise customers will be the capability to 'mix and match' different versions of Systemwalker, with guaranteed compatibility between different versions.

Given the focus on systematic methods of systems management, such as ITIL and COBIT, it is surprising that Fujitsu has not as yet moved towards establishing full compliance with these frameworks. Although Systemwalker now covers many of the areas that ITIL focuses on (for example, it fully covers the Service Management aspects of Service Desk, Change Management, and Service Level Agreement – and has Pink Elephant certification to cover these), it would be beneficial to ensure full coverage. Without proven compliance (via certification), some potential customers may not shortlist this suite for evaluation, which would be a pity because of the depth of coverage it offers.

Product Operation

The core element of the overall solution is **Systemwalker Centric Manager**. This provides the main applications covering IT resource lifecycle management. The key elements of Centric Manager include:

- Server and Network Monitoring – allows a central console to view the entire network. Anything with an IP address can be monitored. The business management view, which can be graphically displayed on a map, can define the critical devices on the map, and can then define how one can impact another. It is possible to navigate by tree or by the map. Recovery processes can be set up and can be very detailed, including information on how that network element worked previously.
- Performance management – this covers both network and server performance. A strength here is that pre-defined templates (by operating system) help to set up thresholds in the first place, speeding up deployment.
- Event Management – alerts can be sent to the Systemwalker console and also to external systems via SNMP, as well as audible, e-mail, or text message alerts. Various events can be detected automatically – for example, by declaring a log file to Centric Manager – logged events will automatically appear. It is also possible to pre-define responses to specific events, easing the load on managers. The values displayed can be customised, for example, warnings can be sent to an alerts database rather than the screen, so that only serious events are alerted, but all events are logged and can be used for reporting purposes later.
- Help desk integration – there is a built-in help desk provided, but events can be integrated (via API) with existing help desk systems, for example, BMC Remedy.
- Software Resource Distribution – this can automate the delivery of software patches and updates from a central repository, or even documents such as newsletters. Distribution can be scheduled, for example, so that when a device is booted up it automatically receives software updates. It is possible to control which devices get which versions of software, and relay servers can be used to reduce network congestion. There is also a rollback option.
- Inventory (asset) Management – an inventory of the network can be automated, either on demand or scheduled – for example, on a weekly basis – to identify all nodes on the network. This is an important aspect, since if an inventory has to be manually maintained it is usually out of date. It is also possible to set a policy for inventory discovery, for example, by subnet, and this can be mapped onto a business view of the network. Inventory information is collected locally and then sent to the central server. The sort of information that this collects includes the software on the device and its physical attributes. Software information can be found by registry key, location, and by reference to standards.
- Remote Control. This covers Livehelp components (similar to products like PC Anywhere). However, it is differentiated because it is not a P2P product; an Expert client is installed centrally, and a remote client locally (which cannot connect to others), all control is from the centre. The solution allows helpdesk staff to monitor and to take control of the user's desktop if necessary.

The package is available in a Standard Edition and Enterprise Edition, which adds in disaster recovery capability, supports clusters for high reliability, and also covers more levels of hierarchy. The Centric Manager console can be customised to suit an organisation's identity and user requirements.

Centric Manager provides monitoring and operating capability for some mainframe environments such as the IBM S/390 family and Fujitsu GlobalServer, and it can also be integrated with SVPM and FTOPS-II.

Reporting and evaluation, which is also appropriate for capacity management purposes can be automated (via an intelligent calendar), or reports can be run on request.

Centric Manager can come pre-configured, e.g. Centric Manager for Oracle, which can save time on deployment as most of the configuration is already complete.

Systemwalker Centric Manager has been designed as a highly scalable solution; the standard edition supports lifecycle management of jobs in a typical client/server environment, or on an Internet-based environment on a TCP/IP network. The Enterprise Edition adds flexible operation configuration such as hierarchical management, as well as functions for managing high-reliability systems.

Systemwalker Operation Manager is a highly visual tool for managing and controlling the running of jobs across a network of distributed servers. It almost brings the degree of mainframe job control to distributed systems, with the added advantage of being very quick to deploy and modify. Much of the emphasis is not only on making it easy to set up jobs across a distributed network, which with the visual tools available is certainly rapid; but on being able to then optimise processes. This is particularly relevant for organisations that need to maximise uptime. The product now has an improved user interface, and usability has been enhanced.

Operation Manager automates job management across the network. It is possible to submit jobs for processing on machines anywhere in the network, with the results being sent back to the central server. Time-dependent jobs can be scheduled by entering into an intelligent graphical calendar, specifying the time, day, month, and year for execution. The tool uses the concept of a 'jobnet' – a graphical representation of job sequences and interrelationships. One jobnet may include a number of jobs that can run on many different systems. It supports parallel processing, and is especially suitable for long and complex processes. New tasks can be easily added into an operational jobnet by stopping it, adding them, and then restarting. A jobnet can be set up gradually, and then expanded over time, providing a rapid time to value.

Operation Manager can also enhance security, for example by starting up a VPN when a file is scheduled to arrive, and then close it afterwards, thereby reducing the risk of unauthorised access.

A Web client enables users to monitor operations via a smart phone/PDA, and not only on a desktop. There is full integration between this and the other aspects of Systemwalker.

Systemwalker Resource Coordinator is a new product within the suite, which supports the company's TRIOLE concept. It allows resources to be virtualised, including provisioning capability. It is integrated with Fujitsu Interstage Application Server. Resource Coordinator essentially manages systems resources (servers, storage, and network resources) allowing autonomic control of the network, based on policy. It can then assist if problems occur, automatically resolving some issues. It can also be used to help optimise resource usage, for example, by accessing under-utilised resources (such as a test machine overnight); saving the existing configuration and then restoring it once overnight jobs have been completed, thereby improving the efficient use of resources.

Systemwalker Service Quality Coordinator (SSQC) is a second major new product, which can help to determine real service levels. There is always a conflict between the server performance and the user perception of it, and use of this tool can save time for the service delivery manager, by automating much of the workload. SSQC visualises the performance of the overall system, and replaces the earlier PerfMGR product.

It can provide a Web-based browser agent, which could for example, check key Internet or Intranet sites that need to be monitored, ensuring that response times are monitored from a user perspective. Another strength is that it can also perform tamper monitoring, for example, to detect if a Web site is being hacked. It can also act as a 'dummy' user, for example, simulating Web site access, potentially even across a dial-up network, enabling real-time monitoring. SSQC creates reports and identifies trends, with good out-of-the-box reporting capability, plus customisation to suit, and data can be downloaded to external analysis tools if necessary.

Systemwalker Desktop Patrol is the first in a line of products planned for this year, that cover desktop protection (these will also add security and encryption protection so that data can be prevented from being downloaded to those ubiquitous but risky USB memory devices). At present, Desktop Patrol provides licence management, ensuring optimal usage of software licences (i.e. by ensuring that software installed on desktops is actually used, and is properly licensed – if software is installed but not used then it may be cost-effectively redeployed). In addition, it can conduct security audits and ensure that security patches are automatically applied, reducing the workload of security management. It can collect operation logs to ensure that corporate devices are being used for the correct purposes, and finally it has a remote operation capability, allowing central administration to take control of a user's PC for training or help-desk purposes.

The applications which allow remote access to users are all well thought out, and do not provide uncontrolled Peer-to-Peer (P2P) access – they all have a central client which can then access the remote device; the remote client cannot then enable any P2P or central access – this will be appreciated by administrators that need to retain security and control.

Product Emphasis

Systemwalker has matured considerably since Butler Group first reviewed the product, when it was already a well-featured solution suite. The main emphasis is on ease of setup and ease of use, focusing on reducing the management effort involved in monitoring and managing infrastructure. The focus on managing batch jobs as well as the on-line infrastructure is particularly relevant for organisations with a mixed and distributed infrastructure.

The visual side of the solution compares well with some competing products that still focus on scripting particularly for job control.

► DEPLOYMENT

Systemwalker manager services are available on Microsoft Windows Server Platforms (NT(Intel)/2000/2003), Solaris (Sparc), and Linux platforms. One of the strengths of this solution is that it supports many older platforms, such as Windows NT, as well as newer ones, although there is no direct mainframe operating system support.

Systemwalker Agent and Client services are available for:-

- Microsoft Windows (Intel) versions 95/98 and ME; NT and NT Workstation; 2000 Server (all) and 2000 Professional; XP Pro/XP Home, and 2003.
- Solaris (Sparc).
- AIX.
- HP-UX.
- Linux.

It is also compatible with many applications that are in use, including many ERP systems (SAP R/3 and Oracle E-Business Suite), databases, and groupware applications.

One of the key strengths of the solution suite from a deployment perspective is that for existing customers it is possible to run individual components at different versions – this is especially appreciated by enterprise customers who may have a large number of distributed agents at an older version than the central applications.

Installation and configuration of Systemwalker is relatively straightforward, and can be accomplished by a competent system administrator. However, a successful deployment is dependent on planning and designing the implementation well, and therefore Fujitsu would recommend a team comprising a project manager, requirements analysis consultant, implementation designer, and systems administrator, is set up to plan and manage the deployment to ensure optimal usage.

Physical implementation timetables are rapid, with actual system installation taking only a matter of hours, and minutes at client level. However, the process of network discovery and data collection may take some time.

Deployment can be modular and gradual; the major components can be deployed separately. Maximum benefits are likely to be achieved by implementing the entire Systemwalker suite, but it has been designed to fit with existing infrastructure elements and can be integrated, for example, to existing help-desk systems.

One feature that is especially beneficial about the monitoring elements is that it is possible to automatically increase the data collected if a threshold is broken, therefore keeping the overhead of the monitoring to a minimum.

Training is available, either on-site or at a Fujitsu office, covering installation and configuration procedures for all the main products discussed. Classroom-based advanced training for capacity planning and performance management staff is also available, and customised training can be provided by negotiation.

Support is available via a support maintenance contract; and is available in the customer's region, with support teams located in the UK, Europe, the US, Asia, Australia, and Japan.

One of the main impacts of deploying Systemwalker is that it is likely to save a lot of management time, particularly on the collection of data for service level reporting. Also, it has been set up to require less consulting services than many competitor's products, and is therefore likely to deliver a lower cost of ownership.

Although the system is simple to install, getting the full benefit of it may take time to develop familiarity, and often an element of trial and error is necessary to establish the correct settings for alerts. If thresholds are set incorrectly, thousands of alerts may be generated, making it hard to see the wood for the trees. Templates have been developed to mitigate this.

► PRODUCT STRATEGY

Systemwalker is the best selling integrated operations management software in Japan, and was developed in Japan to provide a local, cost-effective alternative to competing systems management products, and is supported by a full product development team worldwide.

The sweet spot for deployment is as a horizontal solution for medium and large organisations with at least six servers, and 120 client devices or above.

The company's sales strategy is to work together with Fujitsu Services, providing a joint product and service offering to its customers. The Systemwalker products are key products in the 'industrialisation of IT' strategy of Triole which is promoted by Fujitsu Services.

Systemwalker is sold on a perpetual licence basis, with prices determined by operating system and number of servers. Annual support is available, costing in the region of 20% per annum. Average project costs are relatively low, with licence costs starting from £10,000.

The annual maintenance and support fee covers all support, patches, and upgrades to the software.

The solution itself has been developed over a number of years and is currently at version 12, which was released at the beginning of 2006. Major releases are scheduled annually, with point releases and patches on a regular basis over the year.

At present, the Systemwalker product is not well-known in Europe, and there are a number of better-known competing solutions on the market. As Systemwalker has evolved it now competes with the likes of IBM Tivoli and BMC (for example, Operation Manager competes directly with Tivoli Workload Manager and BMC Control M, but Systemwalker's visual capability is a distinct strength here). Whilst these tend to be either enterprise-level or point solutions, they will be a threat to the success of Systemwalker, and Fujitsu needs to address this with greater marketing activity to improve the awareness of what is a fundamentally sound product.

Future planned enhancements include full ITIL compliance, which we believe to be a wise move (particularly if it involves certification), as well as a greater focus on ensuring enterprise compliance with systems policies. In the near term, additional products are planned in the Desktop range, with a particular focus on security – again a sound move, especially with the increase in portable devices.

► COMPANY PROFILE

Fujitsu is a leading provider of customer-focused IT and communications solutions for the global marketplace. Pace-setting device technologies, highly reliable computing, and communications products, and a worldwide corps of systems and services experts, uniquely position Fujitsu to deliver comprehensive solutions that open up infinite possibilities for its customers' success. Headquartered in Tokyo, Fujitsu Limited (TSE: 6702) reported consolidated revenues of 4.7 trillion yen (US\$44.5 billion) for the fiscal year ended 31 March 2005.

Around 150,000 staff are employed by Fujitsu, excluding the Fujitsu Siemens computer division.

The number of licences of Systemwalker sold has grown significantly and there are now around 25,900 customers with 4,434,000 licences. In addition, the company has certified 3,334 engineers on the solution, with the Fujitsu Middleware Certification Program (FMCP).

Key customers include Toyota Motor Corporation, Japan Airlines, Canon, Hoya Corporation, Nissan Motor Co, Ltd., Cosmo Oil, Hokuriku Bank, Isetan, NTT Docomo, Inc., Orient Corporation, and Daiichi Pharmaceutical Co., Ltd. The company has a number of European and UK deployments although no publicly named customers as yet.

The company's fiscal year 2004 ended on 31 March 2005. Revenue for the most recent financial year equates to some US\$44,511,766 (thousands).

	2005 (Yen million)	2004 (Yen million)	2003 (Yen million)
Revenue:	4,762,759	4,766,888	4,617,580
Change on previous year:	(0.09)%	3.23%	(7.78)%
Total Net Income/(Loss):	31,907	49,704	(122,066)

► SUMMARY

Systems and infrastructure management is a congested market these days. The emphasis of Fujitsu Systemwalker is that it is aimed at automating and improving the processes and practices around the management of an organisation's infrastructure, thereby reducing costs and improving efficiency. Systemwalker has been designed to be a cost-effective yet fully-integrated solution, and Butler Group believes that it now achieves this aim. Planned enhancements will add valuable functionality, particularly in the areas of desktop security.

In addition to meeting the majority of infrastructure management needs, its focus on ongoing optimisation rather than just automation, will be appreciated by organisations that want to focus on cost-effective management.

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